



**POTIS**®

# Döner Roboter



**USER GUIDE DONER ROBOTER**

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**Introduction:**

Thanks for preferring KORKMAZ MEKATRONİK Doner Robots and trusting us.

Our product is always produced by using an advanced technology with a great care.

KORKMAZ MEKATRONİK produce own doner robots and other products based on contemporary techniques, scientific researchs and long-term R&D workings with having 30 years experiences.

**PAY ATTENTION:**

**KORKMAZ MEKATRONİK LTD.ŞTİ will not accept the responsibility of any accident or fault that might be occur in the result of not attending to cautions in this utilization guide.**





**General Instructions:**

1. Absolutely follow the all instructions that inside of documents about robot and written on robot.
2. Please communicate with authorized service any fault and don't interfere till service come.
3. Installation of robot must be done by authorized service or it must be carefully done by attending instructions of installation in utilization guide.
4. The person that use robot can occur utilization faults by the effect of insomnia, tiredness, received substance such as drugs or alcohol, they should be avoided using robot in these cases.
5. Don't place the robot on a workbench, table and someplace like these out of specified qualities on installation guide of robot. The table that robot will work on must be sturdy and available for working non-vibration.
6. Don't place the robot an unbalanced place, absolutely immobilize the robot with given immobilize apparatus in addition with robot. (It will be found with extra parts inside of box.)
7. Plug in robot onto grounded wall-plug. If you don't use device for a long time, unplug from wall-plug. Keep out heat, oil, sharp-edge material and the active part of device.

8. Please protect the robot from such as high temperature,excessive humidity, direct sunlight, dust, rain, snow.
9. Don't use any accessory unspecified by producer.
10. Opening and closing of oven unit,details about whole theme such as gas and electricity linkage.Please do it by reading utilization guide carefully. Get experts done gas or electricity linkage.
11. This robot is just designed to cut the doner,don't try to cut anything out of doner.
12. Ready-fabricated doner that robot can cut is advisable in addition to freshly-prepared doner can be cut.It should be shaved as available for physical dimensions that freshly-prepared doner robot can cut.

## INSTALLATION AND OPERATING OF DONER ROBOT



### Carrying of Robot:

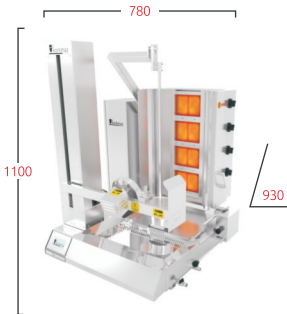
Robot is tightly packed sized of 1mX1mX1.4m outputting from factory . It should be moved by own package toward last montage location.Opening the package it should be opened by screwdriver or removing the screws with star-tipped drill.After opened package during the carrying it should not be moved by holding the cutting handle and emergency stop button,and both of them should not be crashed anywhere.Edges of robot should be never crashed into the walls or doors in passing from tight place and doors.It should be put onto the workbench by lifting with enough labour.During the carrying, sharp steel edges of robot should be held with glove or by using cardboard.Otherwise, carrying people can be injured.



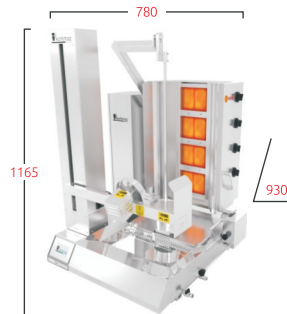
**Placing of Robot to Working Place:**

Operating place should be arranged in any case before starting up the installation of doner robot. If you had an original workbench, paddle box height should have previously calibrated. (Please contact with original workbench producer) Measure of robot workbench is following that table. If you added over 50kg, robot should be immobilized with immobilize apparatus onto workbench. Paddle box on doner robot height from workbench should be at least 1m 35cm. Paddle box sorption should be powerful, it can be some problems based on overheating because of weak paddle box sorption. The depth of paddle box should be at least 1m such as bottom table. By no means paddle box sorption should't be reduced on behalf of making heat saving. chip-pan that over-heat producing, toast etc. something like these devices that spreading heat out absolutely should not put the close to electricity safe of doner robot.

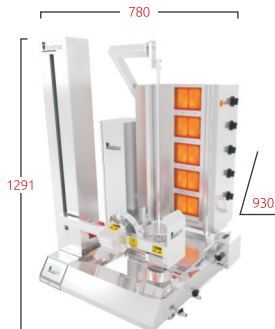
● **KM 050 - BMR**



● **KM 080 - BMR**



● **KM 120 - BMR**



● **KM 220 - END**

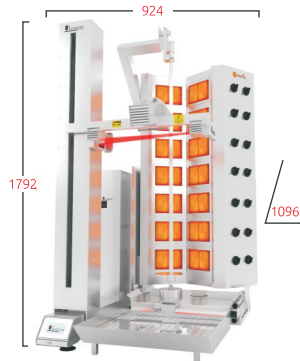


Table 1: Measure of Doner Robot

**OPERATING:**

- The workbench that robot will work on should be made of stainless steel and while robot working, it should be designed in the non-vibrating way.
- While robot is split onto workbench, it should be moved by at least three labours. During the carrying, it should be put without crash into another substance.
- After robot put away, power cable of robot should be firstly plugged into the robot after that a grounded wall plug.
- Power line that robot connected should be connected onto network with 25A an external fuse that changeable according to model and country.

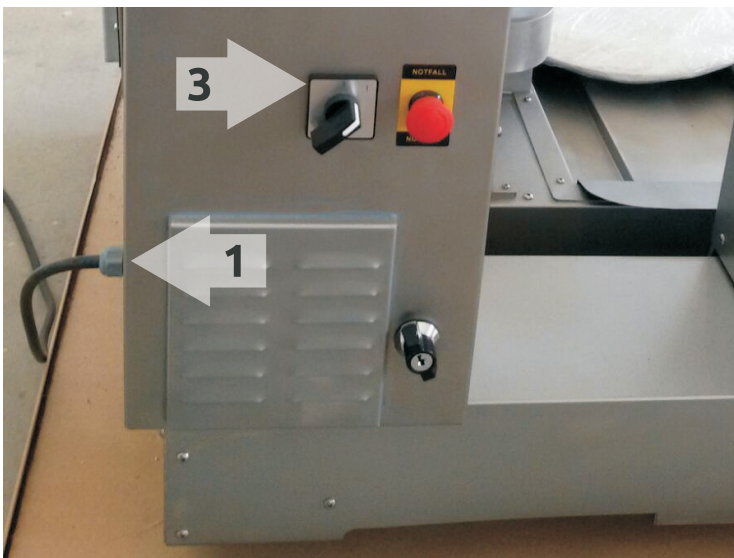


Table 2: Robot Plugging And Opening

- Pay attention to whether plug getting dry and wet or not before the robot did not plugged in power cable after being sure about that,1.direction transaction should be done and after that,switch on-off button of robot should be moved to 1. direction from 3. direction.
- When the switch on-off button is brought to the position 1, fan in the electricity safe will be active.Emergency stop button that in 3.direction should turned toward the direction in order to start-up.If this button (4) is pushed,the robot won't work. 3.and 4. buttons must be open in order to robot can start to work.



Table 3: Emergency Stop Button Of The Doner Robot

- While 3. and 4. buttons are opening,the robot waits about 10 seconds after it'll be active; Bi-Beep ! is the being active voice.
- There's touch screen on robot about operating.The robot can be controlled from remote control or above the screen.5.button must be pushed to remote control can be active.(4.direction) When 5.button in the touch screen pushed,remote control will be active. Press the START/STOP button of remote control or START/STOP button on screen to reset the robot.

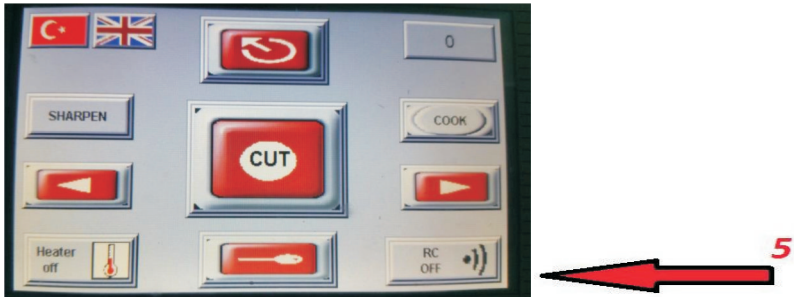


Table 4: Infrared Receiver On-Off Button

## SAFETY FIRST

### General Cautions:



When added power cable into the robot, to unfollow the ranking in table can cause of being death and electric shock. The cable must be added carefully and in the controlled way. Either plug or electrical wall plug should be controlled. Possibility of other end of the cable is fell into the liquid will be dangerous.



Only utilization guide reader or having education should drive the first movement of robot. In order to be in the hand of other one and users beside of the robot and press the button of remote control by mistake can cause of minor injuries.



It should be absolutely paid attention to safety signs on robot. It should be stood away at least 1m during the robot working or to press the screen to operate. Active axis of robot can cause dangerous accidents such as impact, compression.



Remote control of the robot should be never carried in the pocket. Buttons of remote control that stuck in the pocket can be pushed and the robot can move at undesired time.



During the grinding process , it should be exactly followed grinding instructions. Otherwise it can cause extremely sharp knife injuries.



Please don't try to service while robot cutting doner, otherwise cutting handle can cause injuries. Please wait cutting process finishing to service, after that do service no.5 infrared receiver button is turned off. No.5 button; if the lights are on, it's on , lights are off,it's off.



Pay attention to danger of falling of the doner during the doner is added onto own location. Firstly, bottom of doner should locate turning engine part after that safety knob should be passed onto shaft of doner.

## REMOTE CONTROL AND TOUCH SCREEN BUTTON FUNCTIONS



Table 5: Infrared Remote Control

**START/STOP :** It is used to make first move for robot or to reset. It is used if necessary any process stopped.

**SHARPEN:** The robot must has been reset to be active at the first opening.It is used to sharpen, cutting handle become grinding position at first pressing,shearing knife getting start to turn to sharp at second pressing. Accompanying the bi-bi-beep! is warning grinding voice.

**CUT/REPETITIVE:** The robot must has been reset to be active at the first opening. It is used when doner cooked,made cutting decision. When the button pressed, it will determine the doner in the first cutting. Cutting process begins after the motion detection. Repetitive , it means; while shearing knife cutting to continuous cutting becomes always active,this button is pressed second time.Automatically cutting becomes active with signal sound and cutting keeps going non-stop after one period cutting process.



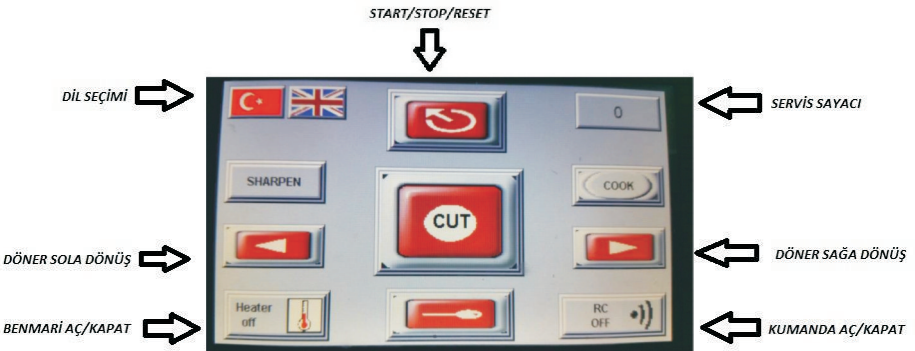


**RIGHT 1+1:** The robot must have been reset to be active at the first opening. It is used to turn the doner right side. The rotational speed is 3rev/min. If it is pressed again turning right side, turning will stop. If it is pressed during the cutting process, it would be passed into signal sound with automatic cutting programme. The robot that cooking one period after one period, automatically keep cutting with the same programme at the end of process. If it's not pressed any button, 1+1 automatic programme will keep working.

**COOK 2+1:** It's pressed to cook, the robot must have been reset to be active at the first opening. If it's pressed again on cooking mode, it'll stop the turning. The rotation speed on cooking is 1rev/min. If it's pressed again while cooking, the doner will stop. If this button is pressed during the cutting process, (2+1) automatic programme would be chosen. After one period cutting process, the robot that cooking two period keeps cutting with the same programme end of the process. Pressing any button will disable the automatic program.

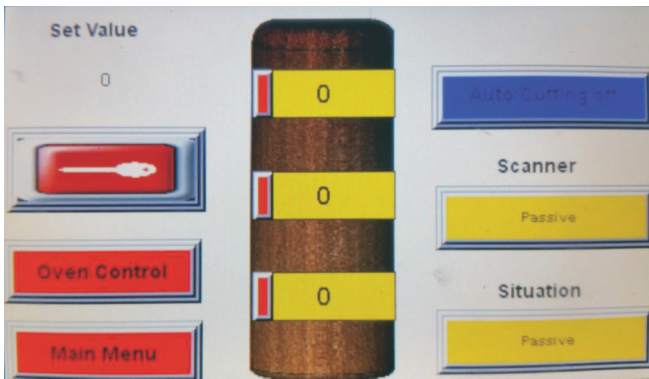
**LEFT 3+1:** The robot must have been reset to be active at the first opening. It is used to turn the doner left side. The rotational speed is 3rev/min. If it is pressed again turning left side, turning will stop. If it is pressed during the cutting process, it would be passed into signal sound with automatic cutting programme. The robot that cooking three period after one period, automatically keep cutting with the same programme at the end of process. If it's not pressed any button, 3+1 automatic programme will keep working.

**Main Menu:** Start/Stop,Cooking,Grinding,Right,Left and Cutting buttons on main menu function is the same with button on remote control. In addition to this;it includes service counters and page transitions buttons and language selection buttons.



**SENSOR MENU:**

**Temperature Sensor Control System:** The engine includes 3 pieces about temperature sensor. It send the robot for cutting according to set value that entered from the screen.



This is the page where controlled the sensor system. First of all,oven must be automatic mode on to operate the sensor system.Automatic mode button is on the oven menu.The robot is calibrated as automatic mode by pressing this button after that set value is entered and automatic cooking button is pressed.From this time on system is getting start to consider sensor. Whenever each of three sensor exceeded the set value,as seen on following the schema; system takes the doner to scan. If the shown temperature values in case of scanning decrease under the set value,system will cancel the scanning and wait to leave behind the shown set value.

If the temperature values don't decrease under the set value, system operate the cutting function of the robot and getting start to cut the doner. Screen is like a following schema.

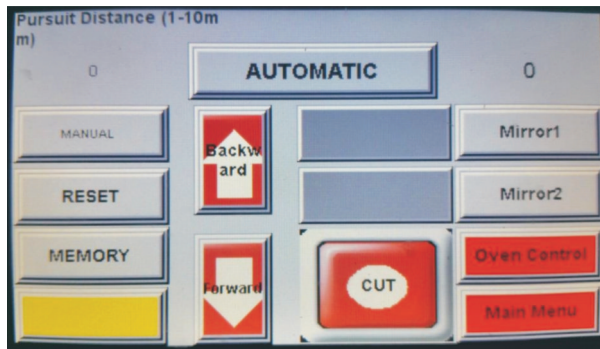


Automatic cooking button is pressed once to deactivate the system.

## OVEN CONTROL SYSTEM MENU

**Oven Control System:** The system is automatically zoom out or in oven in case of cutting and cooking .It can be also used as manual.

**Manual Operation:** Oven control system has two mode. First ist Manual Mode. Oven motion operated as forward-backward-reset at this mode. Thus the oven is moved to the desired location. Manual mode button is pressed so that these functions can be operated.



**When the robot operated first time,oven should be got reset done.** Oven became distant from the doner in this case and it goes up to the trailing sensor. Seeing the sensor,stops. Whether get manual or get automatic,security measures are available not to crash to trays that under the doner.For instance,when move forward the oven,it is warned so that “exit” prior to 5mm to tray. This is for the 50 cm tray.Pressing the "Tray50" button ,it's allowed forward movement of the oven. System is based on 35 cm tray after this point.

Approaching to 35 cm tray,it is warned in the same way.

After 35 cm tray is removed, it is allowed that oven move forward further by pressing the tray35 button. At the same time, the maximum distance that oven can go has been defined and it does not exceed this distance.



**Operating Automatic:** Once the oven got reset done, it is manually brought to the desired point and this point is stored by storing button. Then desired follow distance is entered. Automatic mode button is pressed. From now on when the robot went to each cutting, it pulls the oven back as entered follow distance as and when the oven entered into each cooking, it brings closer to the doner as entered follow distance as. This mode has tray security in the same with manual mode and it operates in the same with manual mode. When cutting process of the robot was over and the reset process is done, after that the oven is brought to the last position that is stored by initial exposure button.

### MONTAGE OF SHEARING KNIFE AND GRINDING

After completing the electrical connection of the robot, the robot is reset by pressing the START/STOP button. After reset process, even if shearing knife is added on, it must be absolutely checked before cutting the doner. Controlling is done to understand whether the shearing knife is correctly added on or not and it is sharp enough or not.



The engine is done about readjust is brought to the grinding line by pressing the "SHARPEN" button. The button of infrared receiver should be turned off during the grinding position, thus during the knife adding process undesired working of the engine would be prevented. **(DURING THE KNIFE ADDING-REMOVING PROCESS, THE ROBOT MUST BE COMPLETELY TURNED OFF)** As seen on Form 6 at first knife and after that knife fixing screw should be added onto the own place. Knife keeping on the hand should be extremely careful. Knife can cut your hands. Knife fixing screw is a left-pass screw, it loosens up toward the clockwise, it tightens toward the counterclockwise. These loosen up-tighten processes should be done by edge of piece of no.6 (Form 7). The knife should be firmly placed onto the own place and its screw should be properly tightened. During working, fully unplaced shearing knife can chatter by rubbing to hollow and it is dangerous. Cutting doner like serrated potato chips arising from shearing knife is not properly placed.

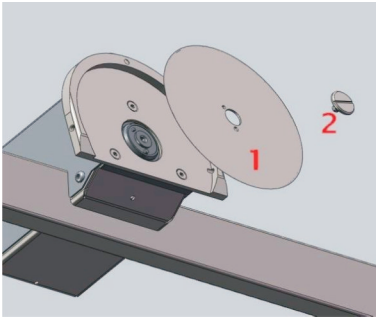


Table 6: Shearing Knife Montage

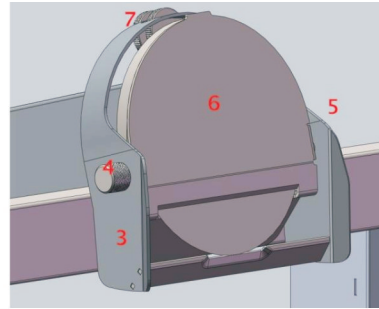
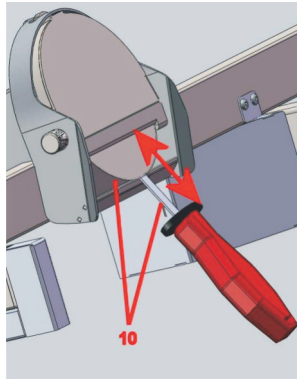


Table 7: Cutting Head Montage



After knife adding, piece of no.3 should be added and no.4-5 flang screws holes should be aligned. After that piece of no.6 should be also aligned by the same holes and no.4-5 flang screws should be added onto the their holes upright ,first it should be lightly tightened. Pieces of no.4-5 should be tightened onto the piece of no.6 by pressing with hand. Fully tightening process; it should be done by firmly pressing onto surface of piece of no.6 that is proximate to the no.4 screw for the no.4 flang screw. Fully tightening process; in the same way it should be done by firmly pressing to the no.5 flang screw of part no.6 for no.5 flang screw. At the end of all these processes, shearing knife should be controlled whether it's rubbing or not anywhere by turning lightly and carefully. If there is no friction,it might be passed in to the grinding process.

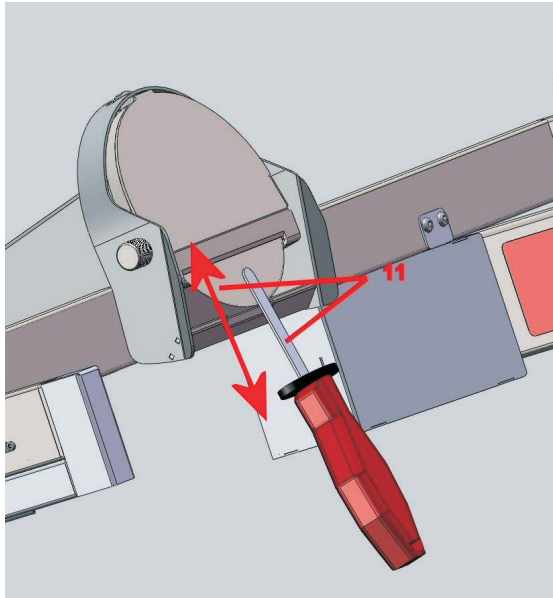




Form 8: Grinding Apparatus and Knife Positions



Please use while the rubber of finger protection is on the robot with the grinding apparatus. SHARPEN(Grinding) button is pressed twice in succession to start the grinding process, at first pressing the robot shearing knife lower to the grinding position and at second pressing the shearing knife starts to turn. During this process, it is consistently heard like “bi-bi-bi-beep!”, this sound is for the warning. As seen on form 8 to grind; knife became distant with piece of no.3 by rotating forward piece of no.7 knurled nut in Form 7 . Please check knife out against the breakages before the grinding process. If there are broken parts on knife-edge, this knife shouldn't be sharpened by grinding apparatus. **NO.10 STATEMENT IS SHOWN IN FORM.8 SPECIFIES ANGLE THAT BETWEEN KNIFE AND GRINDING APPARATUS, THIS ANGLE SHOULD BE ABOUT 15 DEGREES INCLINED. OTHERWISE GRINDING WON'T BE REALIZED. PLEASE PRESS THE “SHARPEN BUTTON”, THE KNIFE WILL START TO ROTATE. PLEASE SHARP THE GRINDING APPARATUS WITH INCLINED INSIDE OF SHEARING KNIFE UP TO THE BURR THAT SHAPED THIN LAYER WILL OCCUR.** Move grinding apparatus back and forward to the direction during the grinding. (Form 8)



Form 9: Deburring Process About Grinding



After the burr process that will occur in Form.8 is needed to remove for the highest sharpness,it is moved by grinding apparatus back and forward to the direction for this process like in Form.9. No.11 statement in Form.9 indicates how grinding apparatus push down onto the knife with a 2 degrees incline and a lightly force.

**DONER FORMS AND TYPES THAT CUT BY ROBOT**

The doner robot can easily cut too many meals such as made by leaf,ground beef,chicken,turkey,sausage,fish. This is the most important point ; the doner is needed which has a certain shape and size in addition to this it should not be deformed during the cutting process. Becoming deformed subject usually includes mince doner or soy mince doner. The doner that surface shape decayed conspicuously is sensed by robot as one of fault shape therefore cutting process won't start or if starts,cutting will stop because of fault function.

**KM-220-END MEASURE OF THE ROBOT DONER**



**KM-120-BMR MEASURE OF THE ROBOT DONER**



**KM-80-BMR MEASURE OF THE ROBOT DONER**



## KM-50-BMR MEASURE OF THE ROBOT DONER



Form 10: Measurements of the Most Inclined and Straight Doner That Can be Added onto The Robot

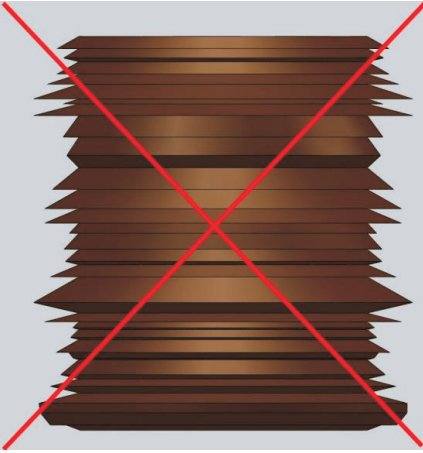
The length of the doner will be added onto the doner robot must be maximal 75cm, otherwise the robot fails and then it will wait at the service position. The doner in the largest diameter shouldn't be more than 50cm, the doner in larger diameter than 50 cm might not be cut. Form.10 ; no matter what kind of the doner added onto the robot indicates maximum values of physical sizes. Inclined doner is cut by cutting blade of robot by following lightly. The only problem the doner which has incline more than 8 degrees snag to the robot. In such a case, cutting process will occur in the upside of the doner however undersides are cut in the beginning because of incline. The doner that added onto the robot has incline should be considered not to encounter with such a problem. It will be enough to set the upper diameter of the doner larger than diameter at the bottom of the doner for several cm. The largest doner is shown above is about 150 kg. Doner can be added onto the robot with desired smallness.

When large diameter doner added, absolutely use extra bottom tray with 35 cm diameter or 25 cm.

### FORMS OF DONER THAT MIGHT NOT BE CUT BY ROBOT



The cutting process won't start because of not available for hardware and software of the doner robot in the form. The robot won't finish the measurement process, in the end of it faults and it will wait for service position. The doner in this way should not be cut by robot.



The doner in the form usually can be such as consisted of leaf, chicken and turkey doners are not shaved. Doner prepared after that edges of the plates should be corrected by shaving and it should be put onto the robot . Cutting process starts on the doner in this way but the robot will frequently fail.



It can be also occurred during first preparation such as it may occur after the doner in the form added onto the robot. Its is not available fort he cutting process, cutting process starts from middle part of the biggest part of diameter, however correction of the robot for the doner will take time. Please contact with your provider if this image will be later.

### Quick-frozen or newly prepared doner can be used

Both quick-frozen prepared doner and newly embosomed skived doner can be use as cutting by doner robot. It has to become to ready to use level with pushing START/STOP button in the teach pendant. If doner will add as fresh, it has to put on the skewers which given with the robot. If needed, for this operation you can take support from our company about devices of wrapping of doner. Freshly prepared doner has to be tight and steady. Doner has to be nonperishable steady during either cutting and baking time.



Form 12: Trimmed fresh doner



Form 11: Shaped fresh doner  
by making trim

While using quick-frozen doner the doner which taking out from its package, has to put on over a steady table and skewer of the robot has to add in the middle of the doner. Here the matter is, the doner provider's having usage the 15X15 mm square stick in the middle of the doner. Necessarily, if you have bigger pre-doner provider which use carton or aliminium material, report it before buying the robot or during the setup to our service employee.



Otherwise, shearing knife might be broken by crushing the doner shaft and cutting head might be damaged. After adding the prepared doner to the shaft, you have to be careful about not making shaft lean and not drop the doner while lifting the doner with hands. You can take support from our company for devices of lifting and loading to the robot if doner weight is over the 50kg.

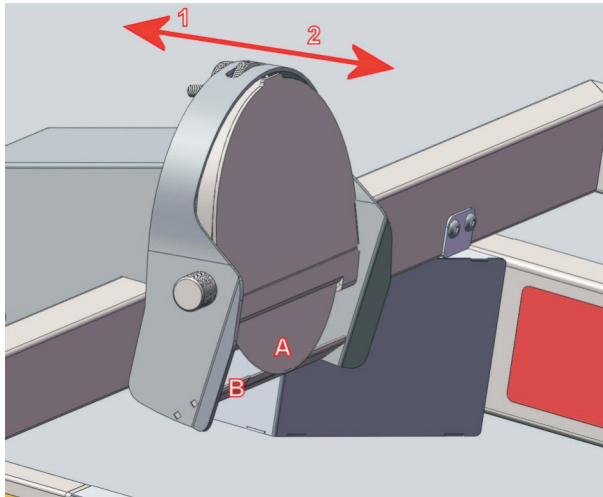
### **Baking Operation**

The doner which put into robot has to be cooked at least half an hour at a low heat. To starting cutting process earlier, might cause to distortion at doner. After adding the doner to the robot, before open the baking oven you have to push the COOK button and activate at robot baking mode. Baking oven has to spark off with starting from the top comb. The doner robot doesn't sense that doner is cooked, the decision of cutting is in the hand of the user. The raw doner shouldn't be cut.



### Cutting Operation

Before starting the cutting operation firstly check that the knife is added, sharp enough and regulated cutting thickness. For making these settings look over to images below. There are two setting points for shearing knife to cut the doner. First one of those has a mechanic setting as showing at image 13. Here, cutting thickness between docking(B) and knife(A) can be calibrated as from 0.5mm to 10mm. For making settings, aspheric studs in image 13 are motioned to 1 or 2 direction. 1 direction is use for slim cut and 2 direction is use for thick cutting. Intended thickness level will be as distance amount of A and B. Recommending ideal cutting thickness is 3-4 mm. Cutting thickness which setting by mechanically is not enough for the operation of cutting.

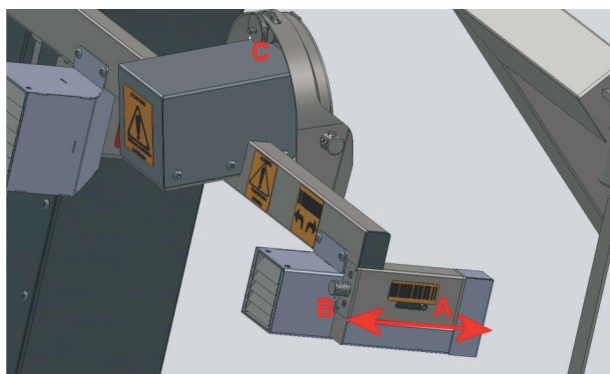


Form 13: Mechanic cutting thickness gauge

For the cutting operation, after mechanic setting which is approximately between 3 and 4 mm, optical setting has to be done.

Beginning of the cutting, optical damping setting that showing in image 14, has to be start from the lower. Before cutting started optical damping setting in image:14 has to be in the thinnest position. The doner which approximately cooked in half an hour at the low heat after making these damping settings, has to be cut by pushing the CUT button. It is normal to not having a complete cutting at the beginning. Until having continious cutting, damping setting studs(B) in image 14, has to turn to the right fastly. Optical damping setting is making by having continuous cutting. Mechanic thickness setting can be calibrated again as thick or slim, according to this damping setting.

Ideal cutting should be provided by optical suppression on precision-bored surfaces increasing and decreasing. Shutters of doner oven should be properly used during the cutting and cooking processes. These shutters are designed heat is produced by oven prompt to the doner and it should be kept open to the doner for 2 cm. Thus,heat energy won't expand around and it will make save.



Form 14: Optical Thickness Adjust

### CLEANING

All of the sharp and plate equipments onto the robot doner might be cleaned by removing from their place. Being undeformed of the equipments should be paid attention when before and after processes of cleaning finished.



Shearing knife should be cleaned by removing in the same way. Cutting head hollow should be cleaned by a hygienical wet cloth. **ANY PART OF THE ROBOT SHOULD NOT BE IRRIGATED BY HOSE. OTHERWISE ESPECIALLY ELECTRIC PLATE, MOVEMENT SYSTEMS WILL BE DAMAGED.** Dirty parts of the robot should be cleaned by a hot wet cloth.

Hose shouldn't be used and not into the cooler core during the cleaning doner .Shutters of the oven should be cleaned by removing. It should be waited for 15 minutes by spraying with sharpless purifier onto the dirty surfaces of the doner. Then it should be cleaned by wire or hard scouring sponge.



**POTIS**

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Döner-Gyros-Grillgeräten und  
Döner-Gyrosmesser

e-mail: [potis@potis.de](mailto:potis@potis.de)  
<http://www.potis.com>

August-Spindler-Str. 4  
37079 Göttingen

Telefon + 49 (0) 5 51 5 06 89-0  
Telefax + 49 (0) 5 51 5 06 89 50